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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/582,926	07/05/2000	AKIRA SAIKAWA	2500USOP	4424

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EXAMINER	
LUKTON, DAVID	
ART UNIT	**PAPER NUMBER**
1653	12

DATE MAILED: 05/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)
	09/582,926	e Saikawa
	Examiner	Art Unit
	David Lukton	1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,22,23 and 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,7,8,15,16,22 and 29* is/are rejected.

7)☒ Claim(s) *2,3,6,9-14 and 23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Pursuant to the directive of paper No. 11 (filed 2/7/03), claims 1-16, 22, 23 have been amended, claims 17-21, 24-28 cancelled, and claim 29 added. Claims 1-16, 22, 23, 29 are pending. Claim 29 is joined with the elected group.

Applicants' arguments filed 2/7/03 have been considered and found persuasive in part. The previously imposed prior art rejections are withdrawn.

*

The following is a quotation of the first paragraph of 35 U.S.C. §112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22 and 29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 22 is drawn to method of treating each of the following: prostatic cancer, prostatic hypertrophy, endometriosis, hysteromyoma, metrofibroma, precocious puberty, dysmenorrhea, and breast cancer. However, there is no evidence that any of these can be successfully treated using LH-RH. In response, applicants have argued that Igari (WO 96/22786) has asserted that one or more of these disorders can be treated with LHRH.

While it may be true that such an assertion has been made, it does not follow therefrom that the assertion is correct. Igari as provided no evidence to substantiate his assertions. Nor is there guidance as to how to use the claimed compositions for such purposes. Moreover, even if LH-RH *per se* is known to be effective for treating one or more of the recited disorders, it would not necessarily follow therefrom that a composition containing a hydroxynaphthoic acid salt of LH-RH in combination with a PLA/PLG copolymer will be as effective as the LH-RH *per se*. How often should be composition be administered for a given disease? How do the required dosages for the claimed composition differ from that of the LH-RH *per se*...? How advanced can the disease be before the patient's condition can no longer be improved by the claimed composition? When the claimed composition is administered to women, what is the frequency of pregnancy? Is the claimed composition effective as a contraceptive in men?

As stated in *Ex parte Forman* (230 USPQ 546, 1986) and *In re Wands* (8 USPQ2d 1400, Fed. Cir., 1988) the factors to consider in evaluating the need (or absence of need) for "undue experimentation" are the following: quantity of experimentation necessary, amount of direction or guidance presented, presence or absence of working examples, nature of the invention, state of the prior art, relative skill of those in that art, predictability or unpredictability of the art, and breadth of the claims. As it happens, endeavoring to achieve contraception leads to "unpredictable" results. Consider the following:

- Fogh (*Acta Endocrinologica* **91** (3) 545-52, 1979) Fogh discloses that cyproterone acetate (CA) is effective to reduce sperm counts in men. Also disclosed is that daily doses of 5 mg and 10 mg of cyproterone acetate are not effective as a male contraceptive.

- Ylikorkala (*Annals of Clinical Research* **7** (4) 280-6, 1975) discloses that the steroid ORG OI-65 (17-alpha-ethinyl-6-estrene-5alpha, 7-beta-diol) has both progestational and estrogenic properties. The authors conclude that ORG OI-65 at a dosage of 2 mg daily is not effective as an contraceptive.

- Glasier (*British Medical Bbulletin* **56** (3) 729-38, 2000) discloses (e.g., page 730) that "emergency contraception" becomes less effective the longer the period between intercourse and administration of the compound. The instant claims encompass post-coital administration of the compounds, and impose no time limits on the subsequent delay prior to administration of the compounds.

- Gates (*Fundamental and Applied Toxicology* **7** (3) 486-93, 1986) discloses that methylmercuric chloride caused a dose-related decrease in litter size. This would appear to meet applicants criteria for a "contraceptive". However, in spite of being a "contraceptive" in females, methylmercuric chloride was not a "contraceptive" in males, and moreover, did not cause sterility.

- Schutze (*Am. J. Reprod. Immunol. Microbiol.*) **14** (3), 84-90, 1987) discloses (e.g., page 89) that one cannot "predict" success in contraception even when beta-hCG activity is suppressed by antibodies.

- Oettel (*Contraception* **21** (5), 537-550, 1980) discloses that norethindrone reduced deciduoma formation as well as the number of implantations in mice and rats; however, this compound was only moderately effective at reducing pregnancy rates. Such a modest reduction of pregnancy rates does not qualify it as a "contraceptive". The reference also discloses that STS 557 (17α-cyanomethyl- 17- β-hydroxy- estra-4,9 (10)- diens-3-one) was ineffective as a postcoital agent in guinea pigs. The instant claims encompass postcoital administration of the claimed compounds in any and all mammals, birds, insects, and reptiles.

- Paterson (*Cells Tissues Organs* **166**, No. 2, pp. 228-232, 2000) discloses that antibodies raised against the zona pellucida (ZP) could suppress *in vitro* human

sperm- egg binding by 60% but did not prevent pregnancy in actively immunized female marmosets.

Accordingly, attempts to induce contraception lead to "unpredictable" results. Moreover, there is the question of what exactly the term "contraception" means in mammals. If the litter size of e.g., dogs or pigs are reduced by 25% as a consquence of administering one of the claimed compounds, would this qualify as a "contraceptive"...? Where is the line drawn?

With respect to the matter of treating cancer, consider the following: Viallet (*Lung Cancer* **15** (3) 367-73, 1996); Kemeny (*Seminars in Oncology* **21** (4 Suppl 7) 67-75, 1994); Newton (*Expert Opinion on Investigational Drugs* **9** (12) 2815-29, 2000); Giese (*Journal of Cancer Research and Clinical Oncology* **127** (4) 217-25, 2001); Garattini (*European Journal of Cancer* **37** Suppl 8 S128-47, 2001); Ragnhammar (*Acta Oncologica* **40** (2-3) 282-308, 2001). Each of the foregoing references disclose various "failures" resulting from attempts to treat cancer. As is evident, attempts to treat cancer using agents which have exhibited *in vitro* activity leads to "unpredictable" results. And applicants have not even taken the first step, which is to show *in vitro* efficacy.

Accordingly, "undue experimentation" would be required to practice the claimed invention.

*

Claims 7-8 are rejected under 35 U.S.C. §112 second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claims 7 and 8 are not properly subgeneric to claim 6. Claim 6 mandates the presence of glycolic acid within the polymer. In response, applicants have asserted that claim 7 is subgeneric to claim 6. However, claim 7 permits glycolic acid to be absent. It is suggested that in further traversing, applicants focus the discussion on the case where glycolic acid is absent. Similarly, in the case of claim 8, applicants have not responded to the specific situation pointed out by the examiner.

*

The following is a quotation of 35 USC §103 which forms the basis for all obviousness rejections set forth in the Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.
>
> This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made, absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103.

Claims 1, 4 and 15 are rejected under 35 U.S.C. §103 as being unpatentable over Sachs

(USP 6,132,768).

Sachs discloses (col 3, line 13) a composition which contains 3-hydroxy-2-naphthoic acid and a "proton pump inhibitor" (which is "biologically active"). Also disclosed (col 5, lines 1-45) are several polymers, nearly all of which would be "biodegradable" to some degree. Of the listed polymers, the cellulose derivatives are perhaps the most "biodegradable" (whether by a eukaryotic or prokaryotic organism).

Thus, the claims are rendered obvious.

*

Claims 1 and 15 are rejected under 35 U.S.C. §103 as being unpatentable over Palmer (USP 5,270,305).

Palmer discloses (col 6, line 1+) that the compositions of examples 6-11 were filled into gelatin capsules. The compositions each contain a hydroxynaphthoate salt. (The hydroxynaphthoate salt fulfills the roles of both "hydroxynaphthoate salt" and "biologically active substance"). Palmer does not characterize gelatin as a "biodegradable polymer". However, this is known to the drug formulation specialist of ordinary skill. (Gelatin is obtained from collagen, which is also a "polymer").

*

Claims 1 and 15 are rejected under 35 U.S.C. §103 as being unpatentable over Wong (USP 5,869,097).

Wong discloses (col 9, line 14) a composition which contains hydroxynaphthoate. (The hydroxynaphthoate salt fulfills the roles of both "hydroxynaphthoate salt" and "biologically active substance"). Also disclosed (col 7, and col 6, lines 54+) are several polymers, nearly all of which would be "biodegradable" to some degree.

Thus, the claims are rendered obvious.

*

Claims 1, 15, 16 are rejected under 35 U.S.C. §103 as being unpatentable over Wong (USP 5705194).

Wong discloses (col 5,line 25) a composition which contains a hydroxynaphthoate salt. Also disclosed (cols 2-3) are various biodegradable polymers. The hydroxynaphthoate salt fulfills the roles of both "hydroxynaphthoate salt" and "biologically active substance".

Thus, the claims are rendered obvious.

*

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lukton whose telephone number is 703-308-3213. The examiner can normally be reached Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, can be reached at (703) 308-2923. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

DAVID LUKTON
PATENT EXAMINER
GROUP 1600